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ABSTRACT

The present state of the art of vocational evaluation is largely manifested within the field of vocational rehabilitation, and as a result, the concepts, instrumentation, and strategies do not lend themselves readily to an educational setting. This project attempted to bridge the gap between the conceptualized model of vocational evaluation within a rehabilitation framework and the needs of a changing career development model within an educational setting. The project focus was on ascertaining the state of the art of vocational assessment of special needs individuals, then building a viable evaluation model for use within the students' continuum of educational services. The initiation of the project was from an unbiased position of searching from existing research, literature, instrumentation, and program models. Data from this search were organized into the first product of the project, a systematic information storage and retrieval system containing information collected from books, journals, bibliographies, site visits, etc. The second product of the project was a structured, two-day model-building workshop, planned and conducted complete with pre-meeting working papers and workshop report to the participants. The third product of the project was the progressive planning, development, and completion of a proposal for encumbrance of funds for phase 2 (model program set-up and pilot test) of the project. The final product of the research, planning, and building process was a presentation of the proposed conceptual model for vocational assessment of special needs individuals. Following the proposed model description, recommendations are provided regarding the initial steps for set-up and operationalization of the conceptualized model components. (KC)

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Cliff Reed

VOCATIONAL ASSESSMENT

For

SPECIAL NEEDS INDIVIDUALS

Project

Final Report

Phase I

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LEA
Blackstone Valley Regional
Vocational School District
Upton, Massachusetts 01458

Funded by
Project No. 79-805-605-013-7
Division of Occupational Education
Commonwealth of Massachusetts

1979-1980

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Vocational Assessment

for

Special Needs Individuals

Project

Final Report

Phase I

Prepared by:

Dr. Robert A. Stodden

Project Researcher

for

502.9 Task Group

Blackstone Valley Regional

Vocational School District

Upton, Massachusetts 01458

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Project Task Force Members

The author of this report wishes to acknowledge the extensive effort and time invested in this project by the 502.9 Vocational Assessment for Special Needs Students task group members. Special consideration is given for the work of Mr. Eugene Picard, task group chairperson and LEA administrator for the project, and Mr. Clift Reed. Bureau Chief, for the State Division of Occupational Education.

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Introduction

I. Project Overview

The vocational assessment of special needs individuals project originated with the regional vocational schools, educational collaboratives and LEA's of the Assabet and Blackstone Valley's, cooperating to address the problem of conducting meaningful diagnostic vocational assessments as mandated through 502.9 prototypes in Chapter 766. The project focus was to ascertain the "state of the art" of vocational assessment of special needs individuals, then build a viable evaluation model for use within the students continuum of educational services. The initiation of the project was from an unbiased position of searching out existing research, literature, instrumentation, and program models. The search was organized in response to four basic questions:

1. What does the literature say about vocational assessment of special needs individuals?

2. What instruments and systems exist for the vocational assessment of special needs students?

3. Who constructs the instrumentations and systems and determines their appropriateness?

4. What are the existing structures of vocational assessment programs for special needs students.

Information and data collected in response to these four questions has been organized within a three-tier storage and retrieval system for accessing during the process of building model program components. The organized information assisted the process of conceptualizing the nature of the assessment events that might occur; how, when, and why they might exist within a developmental growth process for the special needs student.

The activities for the project were performed, by a contracted researcher, within a timeframe beginning May 15, 1979 and ending April 1, 1980. The scheduled activities of the project resulted in the following deliverable products:

1. An extensive filing and retrieval system containing organized information and data on the vocational assessment of special needs individuals.

2. An extensive listing of books, resources, and existing programs related to the process of vocational assessment of special needs individuals.

3. An informational description of several visited, operating vocational assessment programs serving special needs students on a national level.

4. Completion of a two day vocational assessment model building workshop at the Framingham Sheraton-Tara Hotel on Jan. 24-25, 1980, including the publication of pre-workshop working papers and a post-workshop report to the participants.

5. Development and completion of a written proposal for the encumberance of funds for phase II of the project.

6. Completion of a final report for the project to include a written description of a conceptual vocational assessment model for special needs students.

II. Description of the Final Report

A. Purposes

The general purpose of this document is to draw the various project components together and bring closure to events and products making up phase I of the project. The following list of purposes are specific to this project report:

1. To describe the products that were produced as a part of this project.
2. To provide a completed description of the formulated conceptual model for conducting vocational assessment activities with special needs students.
3. To provide recommendations for decision makers regarding the initial steps of set-up and implementation for the conceptualized model components.
4. To recognize the individuals who participated in the completion of this project.

B. Report Format

This report is structured to provide summative feedback to the members of the 502.9 Task Group as to the completion of designated Phase I project products by the contracted researcher. The report will briefly describe the completed parts of the projects with emphasis upon the results of developmental activities progressing toward a conceptual vocational assessment model for use with special needs students. The final part of the report will offer recommendations for decision makers involved in the process of set-up and pilot testing the structured model during phase II of this project.

III. Review of Project Products

1. A Systematic Information Storage and Retrieval System containing information and data collected from books, journals,

reports, bibliographies, search files, publishing houses, commercial production companies, site visits and professional interviews as to the "state of the art" of vocational assessment of special needs individuals. The filing system was constructed with four major sections representative of the field being searched. Each section was further sub-divided into specific categories as deemed necessary by the nature and extent of the collected information. All information filed within the four major sections was further structured within a three-tier retrieval system enabling rapid access to the stored information. The three tier retrieval system consists of level one, being a reference listing of all materials, level two, a annotated summary sheet for each of the referenced listings and level three, a file folder with the actual material or more indepth, detailed information in the listing. The storage and retrieval system is designed in an open-ended manner to accomodate new information as identified in the future.

2. A structured two day model building workshop held at the Sheraton-Tara Hotel in Framingham, MA on Jan. 24-25, 1980 was planned and conducted complete with pre-meeting working papers and workshop report to the participants. The workshop was formated to provide informational input from consultants in the field, regarding vocational assessment model components appropriate for special needs students. The first workshop day provided an indepth presentation with critical reaction of the recommended model components, setting the stage for participant model building input during day two. The second day of the workshop centered upon structured model building activities. Participant input provided recommendations as to potential assessment sites, staffing patterns, when to provide services, and the levels and types of students to be served. All model building input was collected and condensed within the prepared categories. The input was used in a process of reviewing the model components and in the formulation of recommendations for decision makers in the process of setting-up and implementing the proposed assessment process. A review of presentations, activities performed, input received, and program model information developed, is available in a comprehensive workshop report.

3. An integrated aspect of phase I (planning, research, and conceptual model development) of this project was the progressive planning, development, and completion of a proposal for encumberance of funds for phase II (model program set-up and pilot test) of the project. Planning for the phase II proposal began midway through phase I as the model components and rationalization for certain assessment variables became apparent. The phase II proposal was viewed as an intermediate step in the developmental process of operationalizing the conceptual model formulated from information and research gathered during phase I. With the assistance of the State Division of Occupational Education and the Task Force members on this project, the phase II proposal was prepared to develop and set-up the following products:

A. Conduct a survey to determine the extent and nature of existing services that might be accessed as a part of the assessment process.

B. Establish necessary linkages with administrative and appropriate role persons who will participate within the vocational assessment process.

C. The structuring and development of a procedural manual that will assist with the collection of vocational assessment information and the formating of that information within a student profile.

D. The development of an inservice training package to assist the meaningful participation of relevant staff persons to participate within the vocational assessment process.

E. To conduct a procedural pilot test of the processes set-up for the collection of vocational assessment information on special needs students.

The completed phase II proposal was submitted to and approved by the State Department of Education in February, 1980. Proposal timelines, staffing patterns and deliverable products were finalized in contractual form for the beginning of phase II work.

4. A final product of research, planning, and building process is a presentation of the proposal conceptual model for vocational assessment of special needs individuals. The proposed conceptual model is reflective of indicators drawn from the extensive search of the field conducted during phase I of this project. Following the proposed model description, recommendations are provided regarding the initial steps for set-up and operationalization of the conceptualized model components.

Conceptual Model for the Vocational Assessment of Special Needs Students

Introduction

The present state of the art of vocational assessment is largely manisfested within the field of vocational rehabilitation, and as a result the concepts, instrumentation, and strategies do not lend themselves readily to an educational setting. The proposed model will attempt to bridge the gap between the view of vocational evaluation within a rehabilitation framework and the needs of a changing career development model within an educational setting. A vocational evaluation model integrated within a career development context begins to approach the mandates of Federal legislation (94-142, Section 504 of the Rehabilitation Act of 1973) focusing upon appropriate services to the special needs individual. Ideally vocational evaluation should be an integral part of the student's educational and training program starting from early preschool and continuing through adulthood. Since this is not always possible, within the present structure for the delivery of educational services, the process of introducing structural vocational assessment activities should begin sometime during early adolescence.

While a vast amount of research and writing has been done in the area of vocational evaluation, the emphasis has been upon methodology and technology rather than upon establishing a conceptualization outlining the basic purposes and justification for evaluation activities. A majority of the school based vocational evaluation programs presently functioning seem to select components of existing rehabilitation models without consideration or an understanding of their own needs within the educational setting.

When conceptualizing a model for the vocational assessment of special needs individuals it is critical to have a clear understanding of the specific purposes and rationalizations for the existenceof the program. Program purposes formulate the necessary base criteria for determining validity and efficiency factors which contribute to the model structure. Validity and efficiency considerations are necessary in the determination and structure of variables, such as the following:

a. components that will exist within the model structure
b. What will specifically be measured
c. who will participate within the program
d. where will the assessment activity take place
e. what events or activities will take place
f. what is the sequencing and timing of these events
g. who will conduct the assessments

An extensive review of existing programs and research completed in the area of vocational assessment-special needs has brought to the forefront a number of indicators when considering the development of a program model structure. Current programming and research

are reflective of the following considerations:

1. that vocational assessment must be an integrated part of the total delivery of career/vocational services to the special needs student. Valid information should reflect pre-assessment needs of the individual and provide developmental growth facilitating data assisting several aspects of an individuals programming.

2. that vocational assessment is a student centered, developmental growth process of a continual programmatic nature, rather than a strict predictive procedure providing isolated ability data. There is a need to provide more information which is demonstratively useful for treatment and training purposes, taking into account changing needs and capabilities, as well as providing general potential indicators.

3. that the key validity and efficiency factors contributing to the development of a vocational evaluation model are the assessed employment needs of the local area and the applicable skills of the special needs student. These variables are key determiners of the content and process to be assessed, instrumentation and procedures to be utilized, program setting and many other considerations.

4. that there are critical developmental readiness and awareness skills prerequisite to the valid vocational evaluation of the special needs individual. Special needs students often lack the expected awareness and readiness behaviors for entry participation on vocational tasks as well as the characteristic expectations of a testing situation. Key factors include recognition of the task parts and motivation to participate within the task.

5. that any vocational assessment model must address the legal considerations of P.L. 94-142, P.L. 94-482, and Section 503 and 504 of the Rehabilitation Act of 1973 in the formulation of structure, content, and processes.

6. that many standardized assessment instruments and evaluation systems measure one trial learning, thus magnifying the special needs individual's deficits on the task. Indications are that special needs students enter an assessment task at differing levels of self and environmental awareness and readiness, and increase performance levels with practice on the task.

7. that vocational evaluation activities be conducted by individuals with appropriate skills in assessment, vocational education (world of work) and special education/rehabilitation. It is also important for assessment personnel to function within the context of the career development process, from a non-judgemental frame of reference and with a factual knowledge base regarding the world of work and the special needs individual.

8. that key situational factors specific to work roles within career clusters exist and can be critical determiners affecting the performance of the individual on a vocational task, thus, the design of vocational assessment tasks must account for situational factors when considering the task, setting or process.

9. that vocational assessment programs must produce a variety of demonstratively useful information applicable to several individuals working in different disciplines. The information should be useful to the special needs individual to assist career planning as well as training personnel preparing programming.

10. that it is necessary to be aware of significant contributory factors which may influence the special needs individual's participation and performance on an evaluation task. Such factors as learning styles and patterns, physical or sensory limitations, self-concept, and reinforcer system especially influence the performance of special needs individuals in new situations.

PROPOSED VOCATIONAL ASSESSMENT

MODEL COMPONENTS

Observations of current vocational evaluation programs indicate tremendous growth in the development and production of complex commercial work evaluation systems and assessment batteries, yet few have clearly conceptualized purposes or considered necessary structural adjustments to address the career development needs of the special needs individual.

The proposed assessment model components have been formulated taking into consideration the ten listed search indicators and the following suggested purposes for conducting vocational evaluation activities:

1. To produce developmental information which will assist the special needs student and appropriate service providers to facilitate the career development process.

2. To provide information about the world of work and the special needs individual as to specific work related and work skills representative of work roles within occupational clusters.

3. To maximize the application of both general and specific occupational information to assist the special needs individual's options for successful participation in the world of work.

The proposed model is presented in three components, conceptualizing the vocational evaluation of the special needs individual as a developmental, sequential process. Major concern is for the acquisition of information and knowledge by the special needs individual to assist the occupational planning and programming process. Flow through the model components demand cooperation and coordination of assessment activities and application of information over several differing disciplines within the educational setting.

Component I - Readiness

Model component I is structured to provide activities which will facilitate the individual's occupational and personal awareness, exploration, and understanding, as well as provide general occupational cluster information about the students work values, interests, and entry level behaviors and skills. Important readiness behaviors and skills include an awareness, exploration and understanding of the role of work in our society, motivation to work, general behavioral and skill requirements, and limitations within work roles. A key ingredient of the readiness component is student involvement in the program process to the extent that he/she can understand and internalize their own needs and participation within the decision making process. A general product of

the readiness component should be a student who is aware of, and has explored and understands his own needs, interests, and present abilities and limitations in relation to occupational options available. Upon reaching a decision making point to proceed toward more indepth work role exploration and assessment, the student offers an indication for movement to component II. Prior to movement into component II, many students may have the preliminary information to self screen themselves from further vocational evaluation or inappropriate programs.

Component II - Assessment

This component provides indepth work role information in relation to the special needs individual. Traditionally component II is referred to as work evaluation, defined by Barton (1967) as sampling a clients behavior on a variety of test items, work tasks, or situations to compare the clients skills, aptitudes, work habits, attitudes, physical abilities and personal-social traits to those of a specific group of workers, with a set of standards or criteria defined as effective job performance. Within the career development context, component II will assist a ready individual to investigate his indepth interest and abilities on work related and work skills specific to actual work roles. Through generalized activities and assessments in component I, an individual may show interest and decide to further explore within the work role assessment in component II the student discovers that spelling is very important in typing and sitting is more a part of the work role than he had thought during exploratory activities in component I, so exploration and evaluation on another choice would be in order.

A key content validity and efficiency factor in component II is a complete market analysis of the local employment area. This analysis should provide critical content and process information for the determination of what specific work role tasks are a part of the assessment process. A continual review of this analysis is necessary to insure that appropriate equipment, methods, and tasks are a part of the assessment process, thus reflecting the needs of training programs and the employment market.

A basic purpose of the indepth assessment stage is to allow the special needs student to explore and collect specific work related and work performance information on representative work roles. Preliminary assessment data from component I would assist choices for indepth evaluation and assist on collaborating findings in component II. Several considerations are necessary in component II: (a) the type of assessment procedure used (psychometric tests work samples, commercial sample systems, situational samples, imbedded observation); (b) the setting of the assessment activity should be as realistic as possible to insure critical situational influences; (c) lack of biases (academic, cultural, affective, sex) in the assessment procedure; (d) the validity and reliability of task observational rating procedures. Specifically, component II

provides indepth work role information from the world of work and the special needs individual which can then be interpreted and prepared for application in component III.

Component III - Application

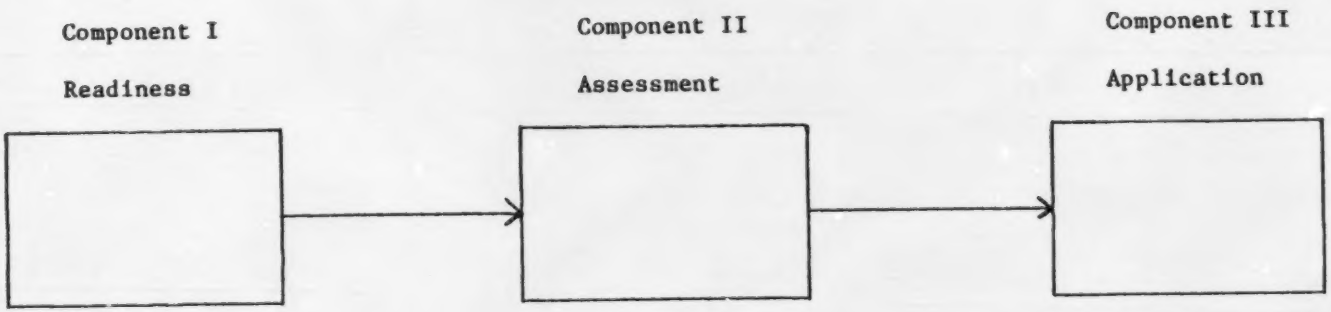
Component III will receive a special needs student who is developmentally aware, has explored and understands several occupations on a general cluster level and a specific work role level. With the individual would be an extensive file of both general and specific work role information (work related and work skills data). This information will have direct implications for the work roles serving as evaluation tasks and generalizing power for those work roles representative within the cluster. The information will be analyzed and interpreted within these two frameworks using the Dictionary of Occupational Titles and other guides to expand alternatives. The interpretation of data for decision making purposes would involve the special needs student and significant others related to the placement and programming process.

A prime function of component III is the preparation and formating of evaluation information for use in a variety of administrative and programmatic settings. The evaluation data will contribute valuable information for the core evaluation team in determining regular or alternative placement; for the vocational instructor, academic teacher, or special education persons in adapting or accommodating instruction, as well as several other persons providing programmatic assistance. The individuals using the prepared evaluation information, work in differing disciplines, thus requiring specific application and formating of the data to meet their needs. It is critical at this point of the evaluation process, that the data be prepared for use, that assistance be provided in implementing the data, and that evaluation follow-up occur as to the changing needs of those applying the data.

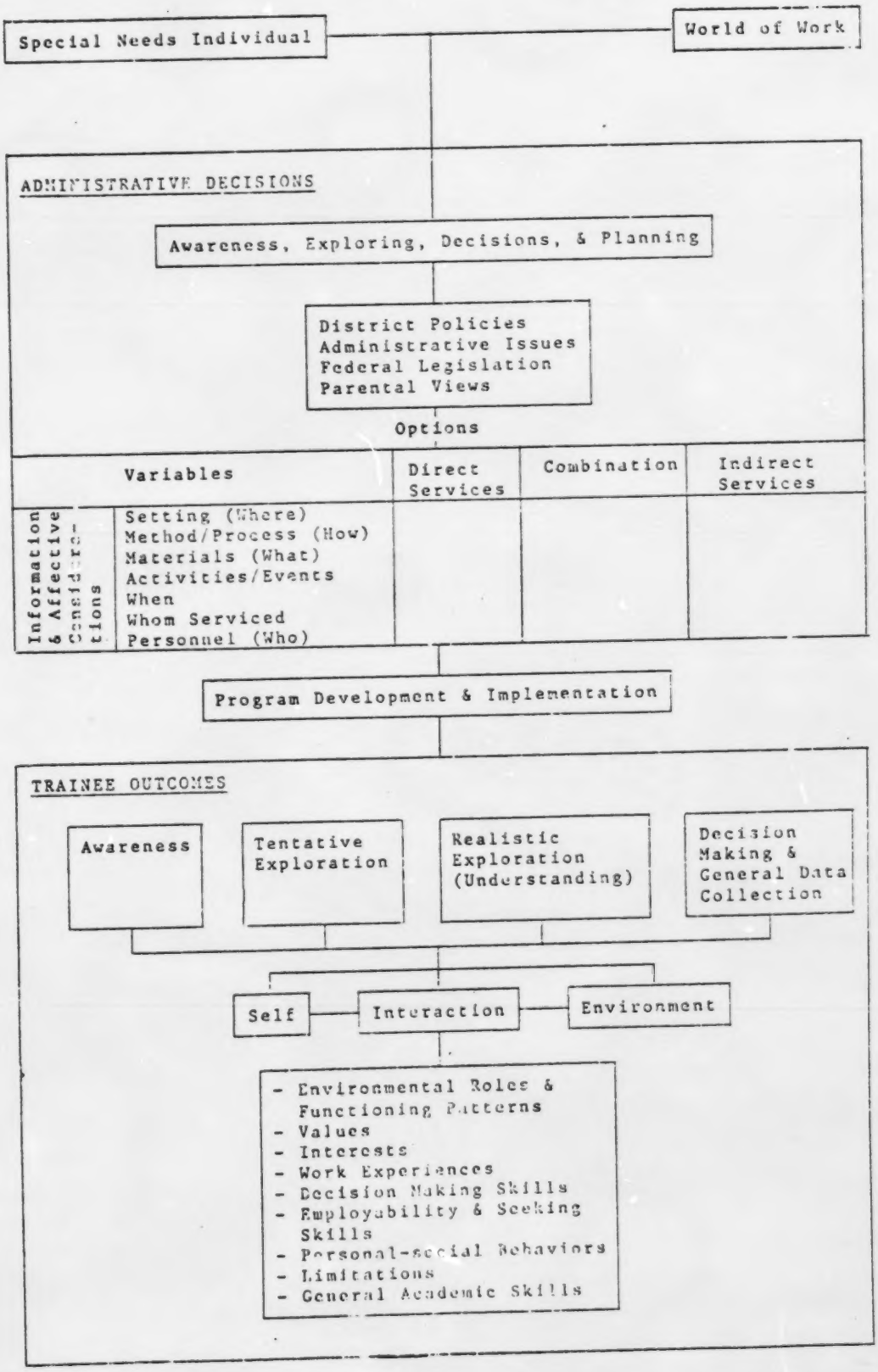
VOCATIONAL EVALUATION OF

SPECIAL NEEDS INDIVIDUALS

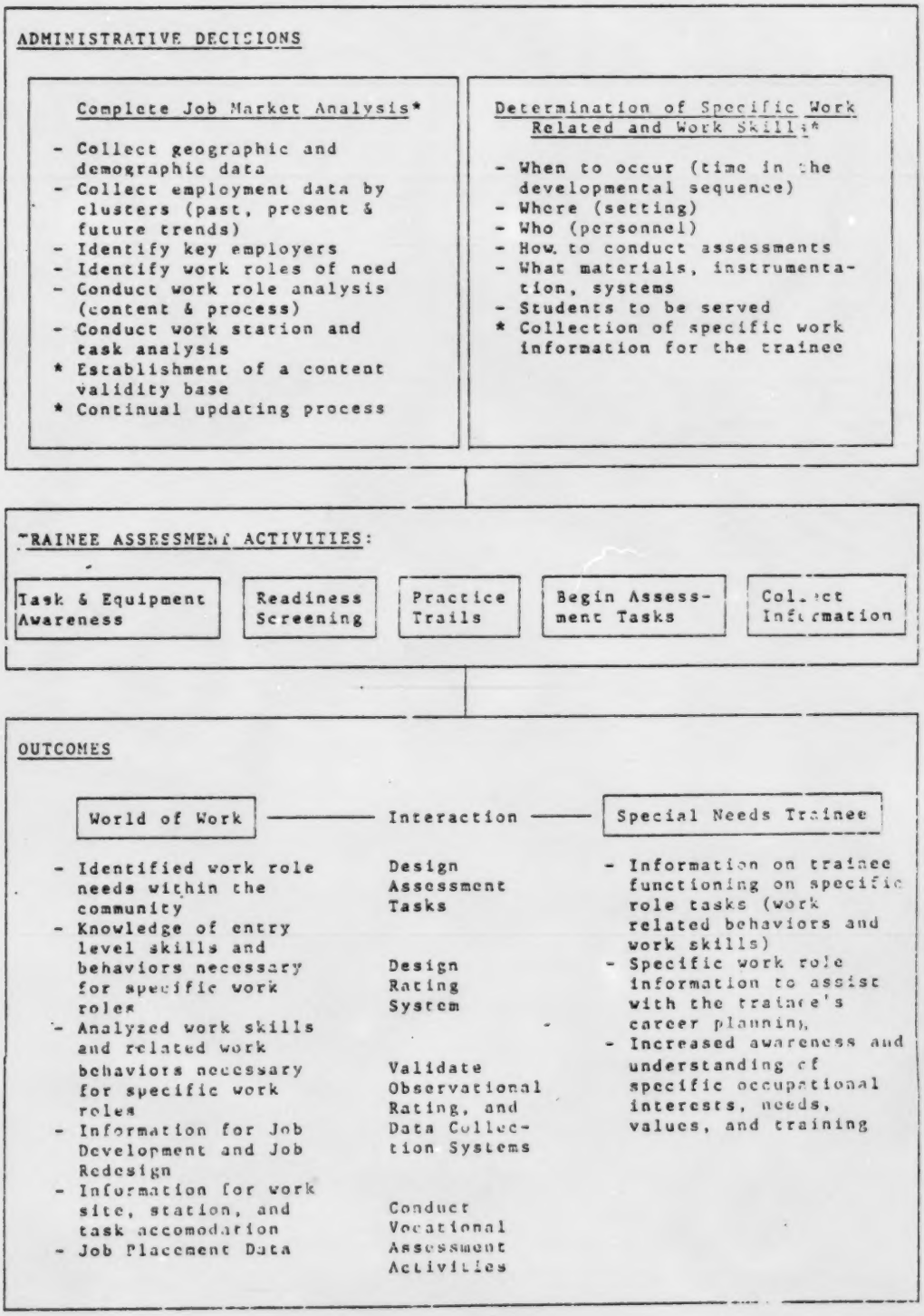
(Simplified Format)


Component I
Readiness
Component II
Assessment
Component III
Application
Evaluation and awareness, exploration, and understanding of the self and general occupational cluster areas
Indepth work role evaluation of specific work related and work skills
Interpretation, and preparation of data for application

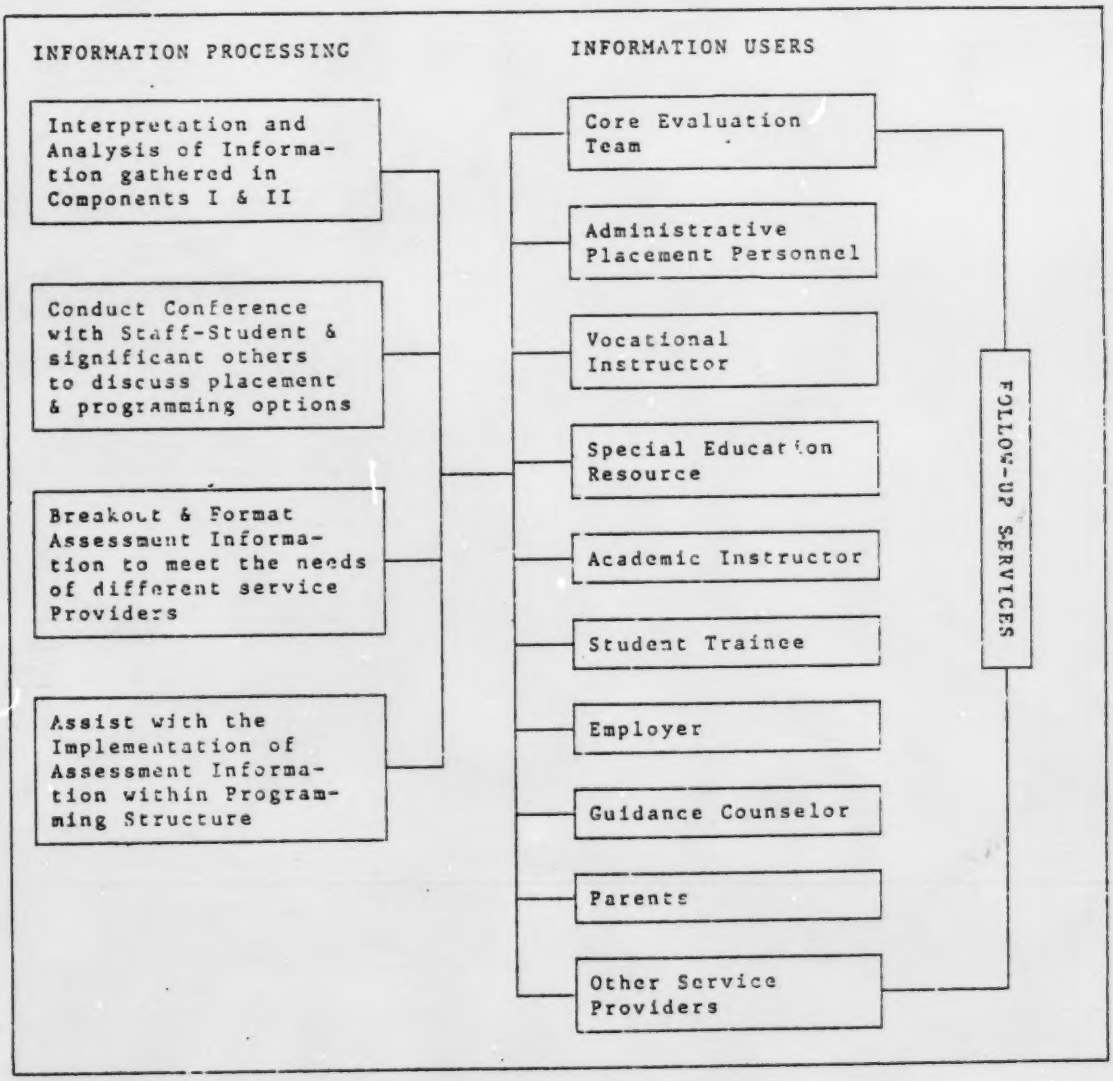
COMPONENT I - READINESS



COMPONENT II - ASSESSMENT


ADMINISTRATIVE DECISIONS
Complete Job Market Analysis*
- Collect geographic and demographic data
- Collect employment data by clusters (past, present & future trends)
- Identify key employers
- Identify work roles of need
- Conduct work role analysis (content & process)
- Conduct work station and task analysis
* Establishment of a content validity base
* Continual updating process
Determination of Specific Work Related and Work Skills*
- When to occur (time in the developmental sequence)
- Where (setting)
- Who (personnel)
- How to conduct assessments
- What materials, instrumentation, systems
- Students to be served
* Collection of specific work information for the trainee
TRAINEE ASSESSMENT ACTIVITIES:
Task & Equipment Awareness
Readiness Screening
Practice Trails
Begin Assessment Tasks
Collect Information
OUTCOMES
World of Work
Interaction
Special Needs Trainee
- Identified work role needs within the community
- Knowledge of entry level skills and behaviors necessary for specific work roles
- Analyzed work skills and related work behaviors necessary for specific work roles
- Information for Job Development and Job Redesign
- Information for work site, station, and task accomodation
- Job Placement Data
Design Assessment Tasks
Design Rating System
Validate Observational Rating, and Data Collection Systems
Conduct Vocational Assessment Activities
- Information on trainee functioning on specific role tasks (work related behaviors and work skills)
- Specific work role information to assist with the trainee's career planning
- Increased awareness and understanding of specific occupational interests, needs, values, and training

COMPONENT III - APPLICATION


INFORMATION PROCESSING
Interpretation and Analysis of Information gathered in Components I & II
Conduct Conference with Staff-Student & significant others to discuss placement & programming options
Breakout & Format Assessment Information to meet the needs of different service Providers
Assist with the Implementation of Assessment Information within Programming Structure
INFORMATION USERS
Core Evaluation Team
Administrative Placement Personnel
Vocational Instructor
Special Education Resource
Academic Instructor
Student Trainee
Employer
Guidance Counselor
Parents
Other Service Providers
FOLLOW-UP SERVICES

Operational Recommendations

This section of the report includes recommendations for decision makers involved in the process of setting-up and implementing the proposed conceptual model components. The general structure and the assumptions underlying the model components provide information upon which to base the following optional considerations:

1. That the proposed vocational assessment model is a process functioning within the special needs student career development process within a variety of educational and work settings collaborating work related and work skills of the individual.

2. That several individuals directly involved in and optional to the students' educational program will participate within the developmental process of collecting vocational assessment information.

3. A function of the vocational assessment model is to identify, facilitate and increase options available as data collection settings and staffing roles within the process.

4. That the kind of vocational information necessary for a student will contribute to decisions concerning the options available for data collection settings, staff contributors, and instruments or tasks necessary.

Specific Recommendations for Set-Up and Implementation

1. Timeframe

Formal entry of the assessment process, with component I (readiness), into the delivery of educational services, should occur at the beginning of seventh grade. Generalized occupational information should be collected as the student progresses through a sequence of awareness and exploratory activities. For lower incidence, moderately or severely disabled students, they should begin such activities at an earlier grade to increase their readiness level at entry into seventh grade. The initiation of component II data collection activities is contingent upon the level of readiness and participation developed by the student in component I.

Specific assessment information in component II should be collected during the eighth grade or when appropriate for the student. Specific assessment activities should collaborate data obtained during component I or open new options for further exploration. For the mildly involved special needs student it may be necessary to collect specific data for possible placement within vocational skill programs that often must be accessed at the ninth grade level. Special needs students are developmentally

delayed in maturity and work related behaviors, thus making a longer assessment and reassessment process necessary for some individuals.

The formating and application of collected assessment information in component III is an ongoing process to assist personnel with placement options, training procedures, and eventual employment and follow-up activities. Component III must address the initial and ongoing needs of IEP team personnel providing assistance to the process of identifying and creating options for the special needs student.

2. Assessment Setting

The proposed vocational assessment model is conceptualized as a developmental process that should facilitate the identification of possible assessment setting options within the existing deliveryof educational services. As the assessment process developmentally proceeds into component II, the expansion of setting options may also include the community and other service areas that might provide valuable situational data on the special needs individual's work performance. Thus, it is recommended that the proposed assessment process occur in several different settings, with the process itself and the special needs student being variables that determine setting options. It is felt that large amounts of valid work data can be collected in existing settings with appropriate inservice as to task definition and data collection procedures.

Recommended setting options for component I of the model include, industrial arts shops, academic areas integrated with the world of work, work sites within the normal functioning of a school setting (office skills, maintenance, horticulture, construction, accounting . . .) and business and industrial settings in the community. The assessment process at this stage would consist of a procedure to identify and develop tasks or situations, as well as activities, within identified settings, which could facilitate a valid data collection process and contribute to the total picture of growth and direction for the student. Component II setting variables are an outcome of component I, with different students necessitating different options. The settings defined for specific work assessment must contain indepth skill requirements and contributing situational factors. The type of information to be gathered will contribute to the setting options identified as possible to use. Setting options might be vocational training programs which are of the most accessible and efficient nature, work sites in the school or community, or developed settings within the school environment. Alternative programs and school-community projects might be accessed to collect information in a specific work area. Component III activities will take place within an administrative or indirect service office (counselor, resource room. special education office, career education). A need would be for office space to gather the collected information, format the data and maintain files and dissemination services to those personnel serving the occupational needs of the student.

Assessment Personnel Roles

The vocational assessment model is conceptualized as a process existing within the current school structure at the seventh through ninth grade levels, with individuals interfacing with the process through the age of 22 years. Many roles within the school and the community could facilitate and contribute to this process. Recommended role descriptions for initiations of the assessment process:

1. Program Manager and Coordinator
   - -facilitate contacts, linkages, and role responsibilities within schools
   - -coordinate the data collection process within the school
   - -inservice the participating staff within the school
   - -assist with formating and disseminating information to appropriate persons
2. Vocational Evaluator
   - -assist with the selection and construction of assessment tasks and activities
   - -assist others to identify and develop assessment tasks
   - -assist with the development of data collection procedures
3. Inservice Provider
   - -develop materials and inservice staff people who will participate within the process
4. School Administrators
   - -facilitation of the process as a part of the services provided within their facility
5. Indirect Service Staff-(counselors, program directors, support staff)
   - -counsel student as to growth through the process
   - -supportive individuals to assist with linkages, coordination, and the collection and organization of information
   - -coordination of the different assessment setting options
   - -coordination of the formating and dissemination process
6. Special Education Support Staff
   - -counsel students as to growth through the process
   - -assist with coordination of the assessment options
   - -assist by providing collaborating information on the student
   - -set-up and direct some assessment options for low incidence groups of students
7. Direct Service Teachers (Industrial Arts, Academics, Vocational Skill Instructors, Others)
   - -assist with the determination and development of assessment tasks in their area
   - -collect data and information
   - -send data to appropriate personnel for formating
8. School, Community- and Work Personnel (Work-study-cooperative education)
   - -assist with the determination and development of assessment tasks

-collect or assist the collection of select information
-send data to appropriate personnel for formating
-provides employment analysis data for assessment task development.

9. Instructional Aides and Parents

-assist with the collection of data and the maintenance of assessment tasks

10. Data Analysist

-assist with the collection of data from both the special needs student and the world of work.
-design format sheets to include student profile description and analyize collected data to validate such profiles.
-conduct a content and process analysis of the employment market and work roles within clusters to maintain program validity.

The initial set-up years of the proposed model will require office space within one or more of the participating schools so that staff outside the existing structure can meet, maintain records and develop the needed processes within the schools.

Conducting the Assessments (Materials, Activities)

An indefinite number of options exist for collecting generalized occupational information desired in component I. Due to the integrative nature of the model, career development and world of work elements must be supported in terms of inservice activities for staff, new methods to approach curriculum content, and additional materials to assist the infusion and data collection.

In recommending activities, instrumentation, and materials, a variety of things developmentally collaborating the students growth and direction seems to provide the most useful information. An example would be a series of activities to occur in a work cluster, world of work vlaues activities in social studies, hands-on-exploratory activities in industrial arts, and joint school-work site visitaticns and tryouts with coordination and data collection procedures between all areas.

Recommended materials and activities for Component I include:

1. The content analysis and development of representative work tasks within cluster areas existing in industrial arts classes (hands-on awareness and exploratory activities).

2. Identification and development of work sites within the school setting. Students participate in a number of work site tasks at school, exploring that work role and producing general occupational data.

3. Identification and development of community-business industry exploratory visitation and try-out sites; also, can acquire materials from the community for use in the school setting.

4. Develop and set-up a business enterprise system with production units using a variety of direct service and support areas within the school setting.

5. Access other support services within the school system or the municipal and state offices (high school work study, alternative projects, collaborative, recreation awareness programs)

6. Purchase supplemental commercial materials.

Suggestions:

McKnight Career Information Systems
Bloomington, Ill. 61701

-Provides a systematic procedure for matching worker trait areas with work roles and school subject areas. Allows the student to explore different work roles in relation to other activities and subjects taking place within the school setting. Costs: $200.00

Project Discovery
Southwest Iowa Learning Resources Center
Red Oak, Iowa 51566

-Contains separate self contained packages of 28 career/work roles which may be purchased separately. Each packet contains the basic materials, instructions, and supplies for the student to go through an exploratory activity (group or individual, self programmed) Costs: $2700.00

COATS - Comprehensive Occupational and Assessment Training System

Prep, Inc.
Trenton, N.J. 06858

-Contains 12 exploratory work samples which are self contained units that can be purchased separately. Each unit contains all necessary hardware, programmed instruction and assessment instrumentation.

Other pencil-paper activities that provide initial screening or collaborating information:

1. Career Maturity Inventory
2. Social Pre-vocational Information Battery
3. Picture Interest Exploration Survey
4. Picture Interest Inventory
5. VISA

(See Table I for general areas of data collection)

Recommendations for materials and activities for more specific indepth work role assessment (Component II) must take into consideration process and content validity (current to the world of work), as well as, key situational factors contributing to success on the task. Suggestions for activities will be similar to Component I with greater concern for the representativeness of the task to existing work roles for which the student might receive skill training. Commercial materials will not be suggested at this point (review of existing materials and systems is attached) due to the many problems in using them with different disabling conditions and within an infusion process model.

Recommended activities for Component II include:

1. The content and process analysis and development of representative work role tasks within vocational skill training shops or actual work sites. (hands-on)

2. The development of evaluation stations within related programs and actual work sites in the school setting. (hands-on)

(See Table II for specific work related and work areas of data collection)

Summary

The resulting conceptual model for the vocational assessment of special needs students could be implemented through a number of different delivery systems, some of which are much simpler than the recommendations presented. The presented recommendations are based on indicators formulated from the search conducted during this phase of the project. Those indicators pointed to the following:

1. That vocational assessment must be a part of the career development process for students of school age, and career development curriculum is based on an infusion principle integrating with all other aspects of a persons life.

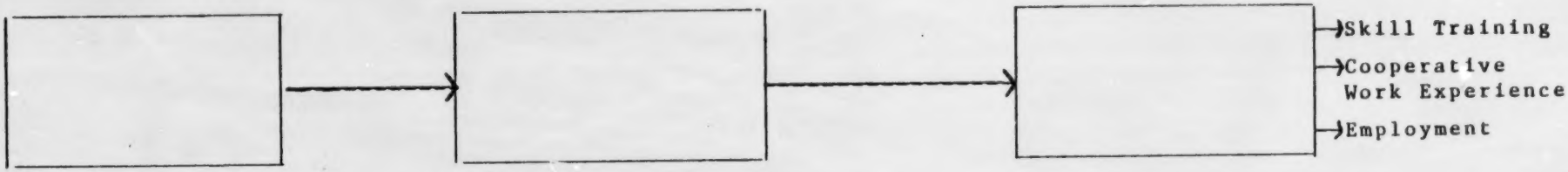
2. A meaningful method of collecting useful data is to have a variety of people involved in a developmental process over a long period of time.

3. Due to present and future budget constraints (hiring new staff, renting separate facilities, busing students), the most meaningful recommendations for set-up of this model seemed to be to make use of existing facilities, service delivery structures, and staffing patterns.

The conceptual framework proposed through this model is a flexible procedure to be infused within the existing structure, curriculums, and staffing patterns of a school. The investment is made with the existing staff and school structure to look within and around itself to increase programming and assessment options, rather than invest in a separate and additional dimension to the present flow of services. The flexibility and developmental nature of the model design provides a ready process for the continual expansion and building of assessment in an infinite variety of ways. With the beginning of phase II, those who set-up, test, and implement the model structure will also become aware and explore options for operationalization.

VOCATIONAL EVALUATION OF SPECIAL NEEDS INDIVIDUALS

(Simplified Format)



Component I Readiness	Component II Assessment	Component III Application	
Awareness, exploration, understanding, and evaluation of the self and general occupational cluster areas	Indepth work role evaluation of specific work related and work skills	Interpretation, and preparation of data for application	
Activities to occur during the 7th grade and parts of the eighth grade-longer for lower level disability areas	Activities to occur during 8th grade and 9th grade for those considering skill training programs. May be reassessed during other stages of training in the 10th, 11th, and 12th grades	Information is formated and profiled during the 2nd semester of the 8th grade changes are made as the person proceeds through training	TIME FRAME
7th, 8th, and 9th grade base setting using the principle of expanding options. Beginning options include the industrial arts shops, academic classrooms, in school work sites, community business and industrial sites	Settings representative of in-depth skill requirements and situational factors. Optional settings will include vocational skill training programs, work sites within the school or community, developed sites within the school or alternative programs.	An administrative or indirect service office within the base school. (Special education on career areas)	SETTING

Component I Readiness	Component II Assessment	Component III Application
Indirect Service Staff Counselor, Career Education personnel, special eduaation support persons, work study persons	Indirect Service Staff Same as Component I, as well as vocational coordinators and other school community and alternative program staff	Information is formatdd by indirect service staff for use by other direct service staff.
Direct Service Persons Industrial Arts instructors, academic teachers, special education teachers, floor supervisors at work sites, instructional aides and parents	Direct Service Staff Same as Component I, as well as, vocational instructors and other direct service staff	ROLES
Initiators Program Manager Data Analysist Vocational Evaluator Inservice Provider		
-development of representative work tasks within cluster areas -identification and development of work sites within school environment -develop community-business-industry out of school exploratory sites -develop business enterprise system with production units -use of supplemental commercial materials -use of existing assessment situations	-development of work tasks representative of work roles specific to cluster identified in Component I (use of vocational shops) -development of work role evaluation stations within alternative programs -development of actual work sites (stations) within school and community settings -use of supplemental commercial materials -use of existing assessment situations	-student profile forms -occupational cluster analysis information -specific work role analysis information INSTRUMENTATION, MATERIALS, ACTIVITIES

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*A Complete listing of books, references, and other materials for this project exist in the project information storage and retrieval system.

Table I

Example of Possible Information collected:

A student has completed component I with the following profile corresponding to the fine areas of assessment as defined above.

1. Is able to manipulate small tools (fine motor coordination) as measured on Crawford Small Parts
2. Reads at second grade level· has third grade math ability as measured by WRAT, Peabody, etc.
3. Must be given directions slowly, needs close supervision (direct observation of teachers on Project Discovery work samples)
4. Prefers indoor work, likes manipulating tools, etc. (WRIOT, Becker, etc.)
5. Wants to go to vo-tech school, thinks electronics program will lead to good job - preferably electron: technician.

The following outline summarizes some of the capabilitie which would be assessed in depth in component II. Specific inherent to the capabilities are noted as well as specific strategies and resources which would be required.

ELECTRONICS CLUSTER

		Capability	Factor	Strategies/ Resources
1.	Vocational Skills	ability to use color coded resistors	color discrimination	commercial or simulated work sample
		ability to use small pliers to connect wires to terminals	fine motor disrimination	situation: shops or employment setting
		ability to install hardware (screens, bolts on chasses)	size discrimination	performance standards inherent to work situation
2.	Academic Skills	ability to read and interpret descriptions of malfunctions on job order	problem solving	same with supplementary test geared to specific related capability
		ability to select components from catalogue orders	reading skill	
		ability to measure cables and wires	math skill	
3.	Attitudes/ Behaviors	ability to follow supervisors	following directions	same with supplementary rating forms such as San Francisco Vocational Competency Scal
		directions for storing installation materials	following directions	
		ability to work under stress of assembling specific pieces of hardware in a given time frame	working under stress	
		ability to work cooperatively with peers in a joint project	working cooperatively	
4.	Vocational Interests	ability to express preferences between specific electronics career options	preferences	ongoing counseling interviews
		ability to give reasons for choices based on own feelings about adjustment to job	self concept	supplementary instruments with related items (Kuder. WRIOT)

		Capability	Factor	Strategies/ Resources
4.	Vocational Interests,	ability to relate job characteristics to own needs, values	needs, values	
5.	Career Planning	ability to describe steps necessary for acquiring an electronics technician job vs. an assembler job		D.O.T. Literature specif to local electron form
		ability to explain what entry jobs exist as Digital Corp. and what career option entry jobs can lead to		
		ability to state specific factors favorable to employers in electronics (math skill, desire for bench work, etc.)		

Table II

Conducting a Market Analysis

Purposes

1. Establish a validity base for occupational training program.
2. Establish an informational base for developing placement program.

Developmental Procedural Steps

1. Define parameters of areas to be served
2. Collect available geographic area (distance, location of services, planning areas)
3. Collect demographic data (population, numbers employed in general cluster areas)
4. Collect employment data (past, present, and future trends) as broken out proportional by career cluster areas.
5. Identify key employers within cluster areas
6. Identify work roles within cluster areas
7. Conduct a task analysis of the work role representative of the cluster (content and process analysis) (breakdown by work station)
8. Periodic review of the current tasks involved in the work stations, processes and skills needed to participate in the tasks, and the materials and equipment involved as a part of the task.

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